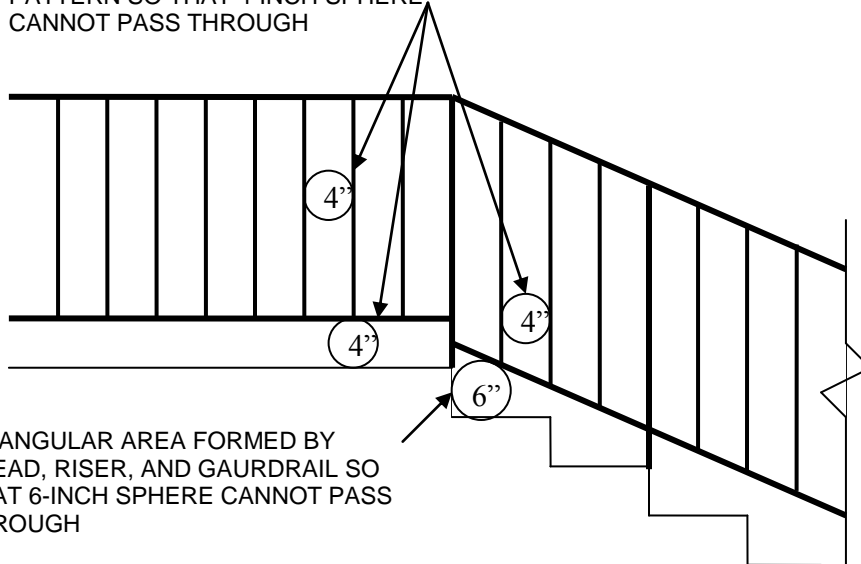




GUARDS AND HANDRAILS (RESIDENTIAL)

INTERMEDIATE RAIL SPACING OR PATTERN SO THAT 4-INCH SPHERE CANNOT PASS THROUGH



TRIANGULAR AREA FORMED BY TREAD, RISER, AND GAURDRAIL SO THAT 6-INCH SPHERE CANNOT PASS THROUGH

GUARDS – 2010 CRC Section R312.1 Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inch (762mm) measured vertically to the floor or grade below at any point within 36 inches (914mm) horizontally to the edge of an open side.

The top of guards shall be a minimum height of 42 inches.

Exceptions;

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864mm) measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be not less then 34 inches (864mm) and not more than 838 inches (965mm) measured vertically from a line connecting the leading edges of the tread.

HANDRAILS 2010 CRC, Section R311.7.7 Handrails Handrails shall be provided on at least one side of each continuous run of treads or flight of stairs with four or more risers.

Section R311.7.7.1 Height Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface ramp slope, shall be not less than 34 inches (864mm) an not more than 38 inches (965mm).

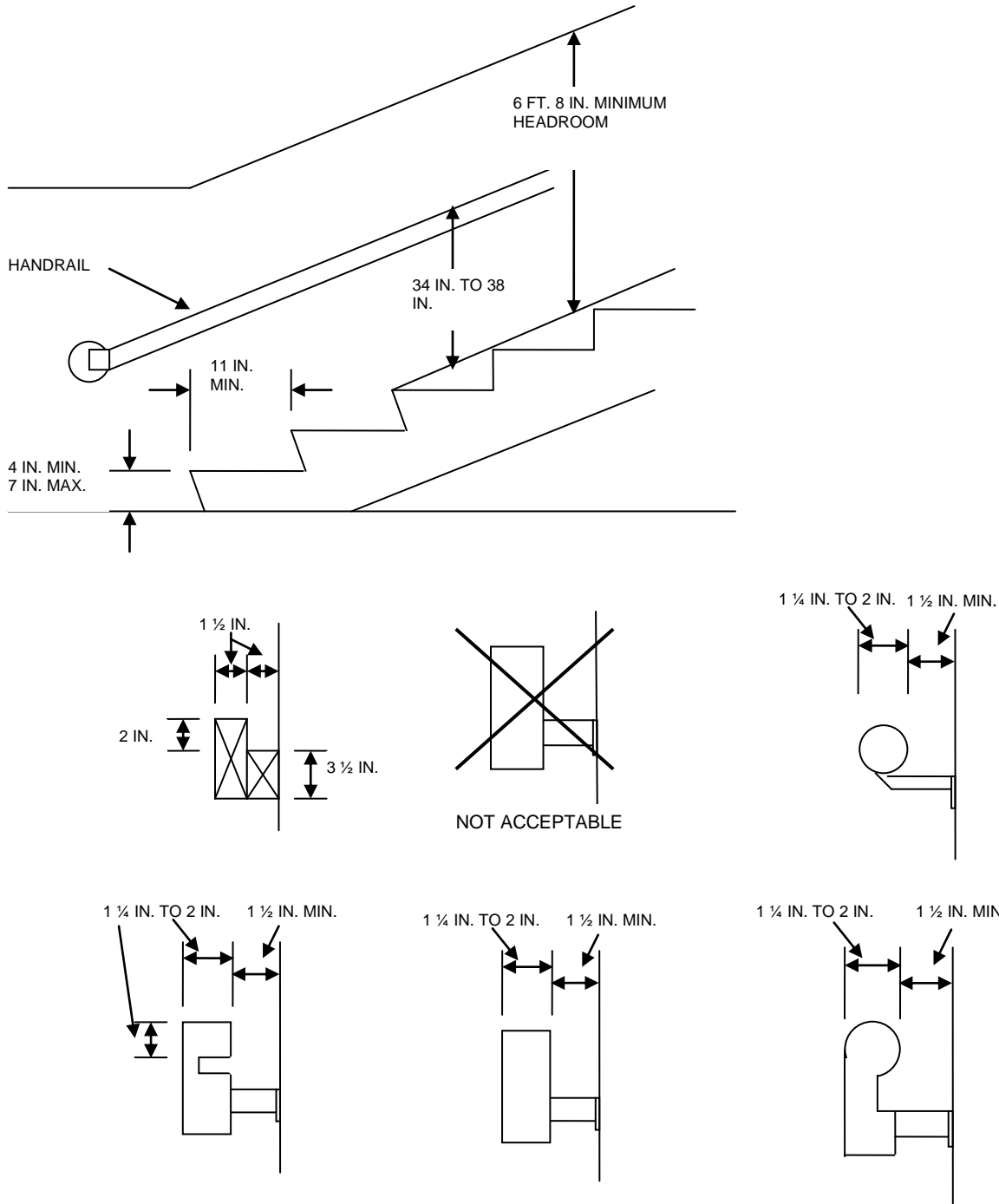
EXCEPTION: 1. The use of volute, turnout or starting easing shall be allowed over the lowest tread. 2. When handrail fittings or bendings are used to provide continuous transition between flights, the transition from handrails to guardrails, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height.

Section 311.7.7.2 Continuity Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in a newel posts or safely terminals. Handrails adjacent to a wall shall have a space of not less than 11/2 inches (38mm) between the wall and the handrail.

EXCEPTIONS: 1. Handrail shall be permitted to be interrupted by a newel post at the turn. 2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

Section R311.7.7.3 Grip-Size All required handrails shall be of one of the following types or provided equivalent graspability. Type I. Handrails with circular cross sections shall have an outside diameter of at least 1 1/4 inch (32mm) and not greater than 2 inch (51mm). See section R311.7.7.3 Type II for handrails greater than 61/4 inch (160mm) in size.

HANDRAILS (RESIDENTIAL)



This is a few examples of handrails, there are many other configurations.

HANDRAILS – 2010 California Residential Code Section R311.7.7

- Handrails shall be continuous the full length of the flight of stairs.
- Handrails may have starting or volute newels within the first tread on stairways.
- Handgrip portion of handrails shall not be less than 1-1/4" nor more than 2" in cross-sectional dimension or the shape shall provide an equivalent gripping surface.
- Handgrip portion shall have a smooth surface with no sharp corners.
- Handrails projecting from a wall shall have a space of not less than 1-1/2" between the wall and the handrail.